

Comments: Incentives, Spatial Variations and Spatial Spillovers

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Acemoglu (2010) “***Theory, General Equilibrium*** and ***Political Economy*** in Development Economics”

The four papers of this section, though distinct in methodology and topic, show how microdata and spatial variations can shed light on the role of ***political economy*** factors in development.

In what follows, the discussion focuses on

- ***Theoretical model***: players and incentives
- ***Empirical strategy***: spatial data
- ***General equilibrium effects***: spatial spillovers

A diverse set of players

	Central/state gov't	Local gov't	Public companies	Private companies	Local communities
Jacoby and Mansuri		+			+
Alesina, Gennaioli and Lovo		+		+	?+
Kresch	+	+	+		
Alder and Kondo	?	?			

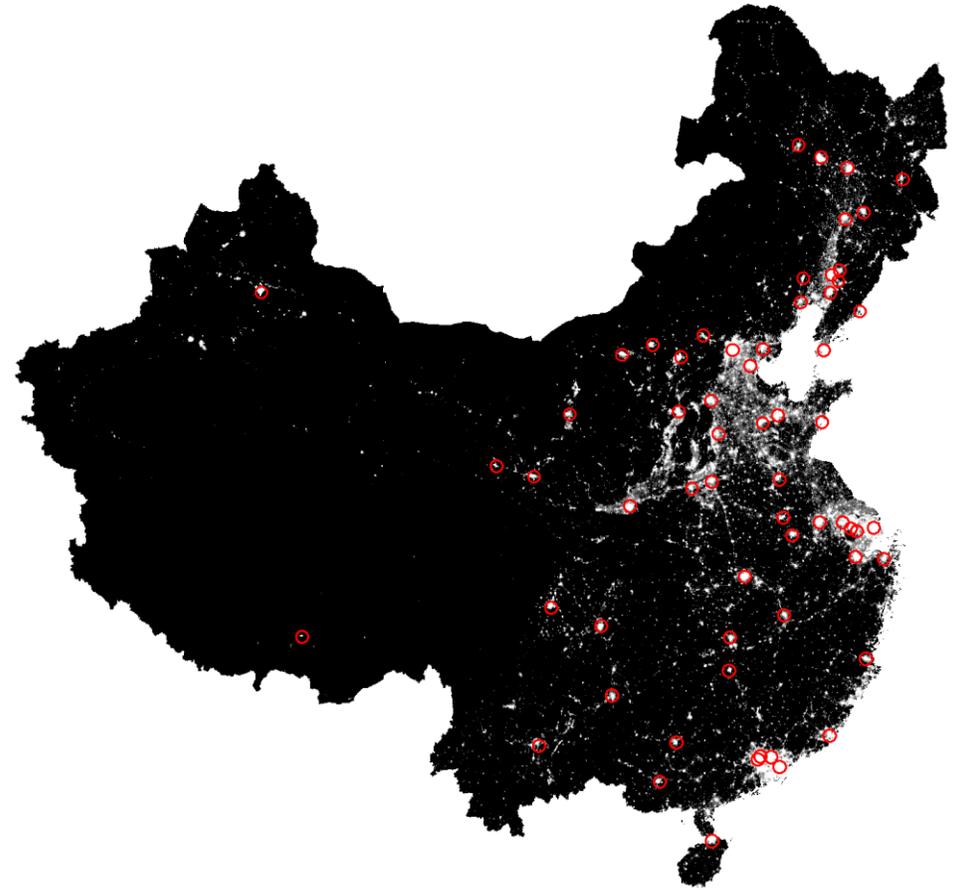
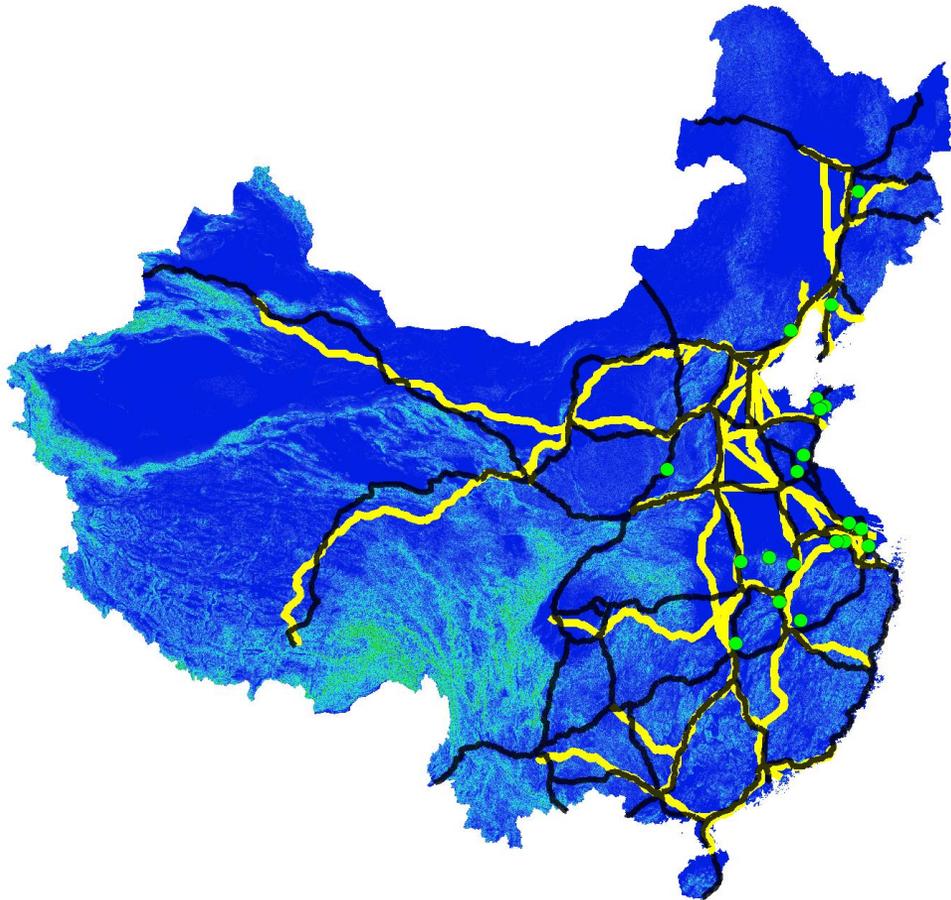
Completely/incompletely specified incentives

	Central/ state gov't	Local gov't	Public companies	Private companies	Local communities
Jacoby and Mansuri		power, rents			rents
Alesina, Gennaioli and Lovo		power, rents		rents	welfare(?)
Kresch	constituency welfare; power (?)	constituency welfare; power (?)	constituency welfare; power (?)		
Alder and Kondo	?	?			

A central role of spatial data for identification

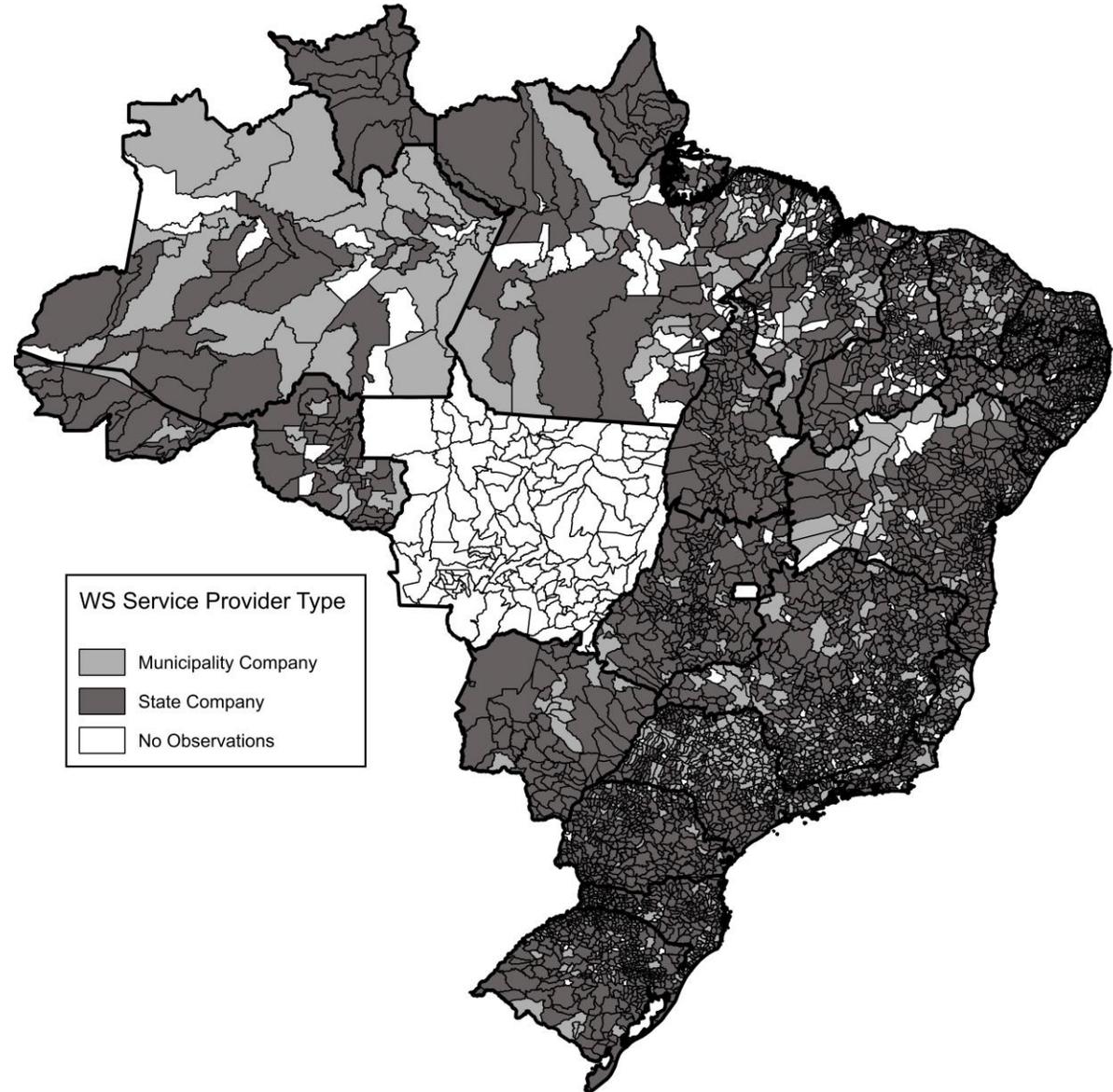
Alder and Kondo:

county-level politician birthplace; highway network; nighttime light, satellite imagery.

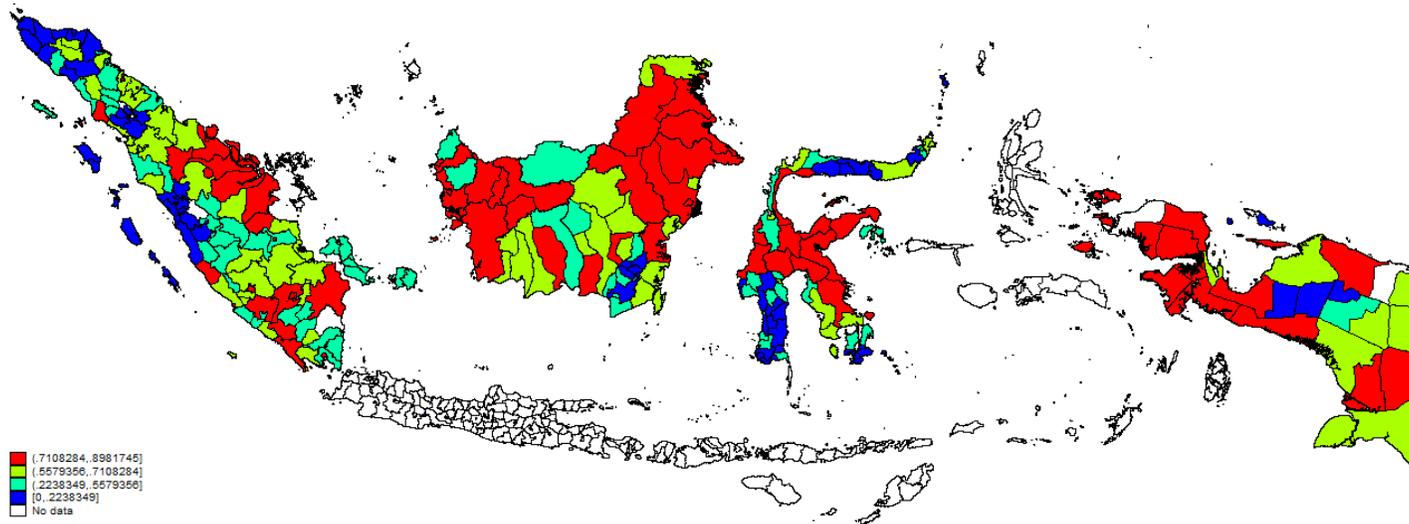


A central role of spatial data for identification

Kresch:
city water sanitation provider type;
city water sanitation investment;
city population mortality rate.

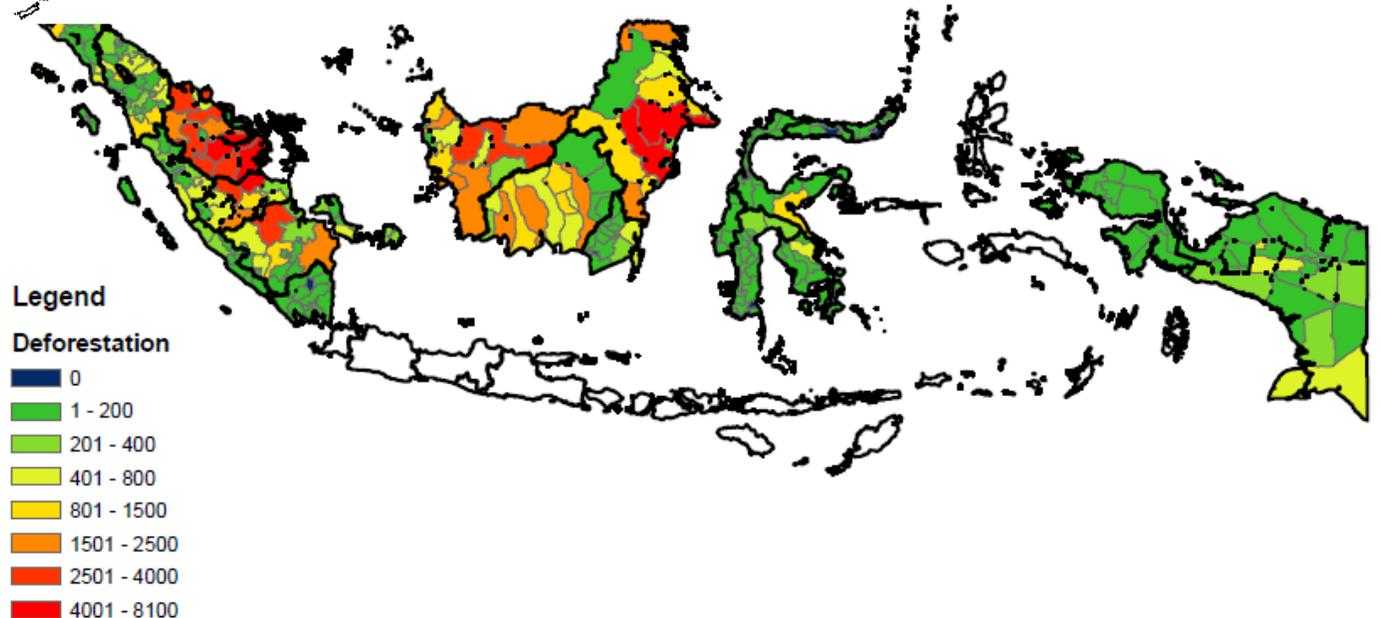


A central role of spatial data for identification



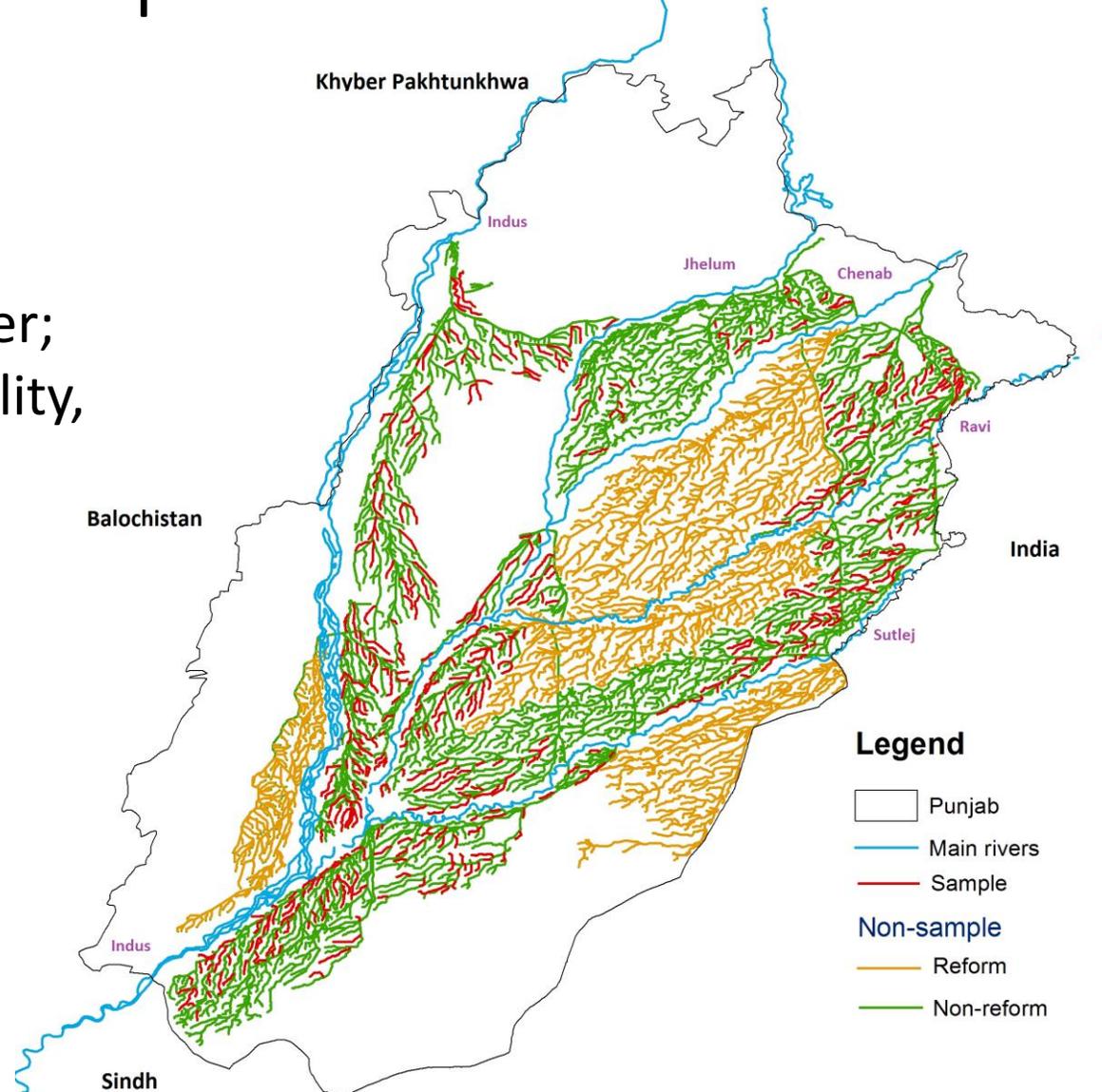
Alesina, Gennaioli and Lovo:
district ethnic fractionalization;
deforestation, satellite imagery.

Burgess and others (2012):
district splitting;
deforestation, satellite imagery.

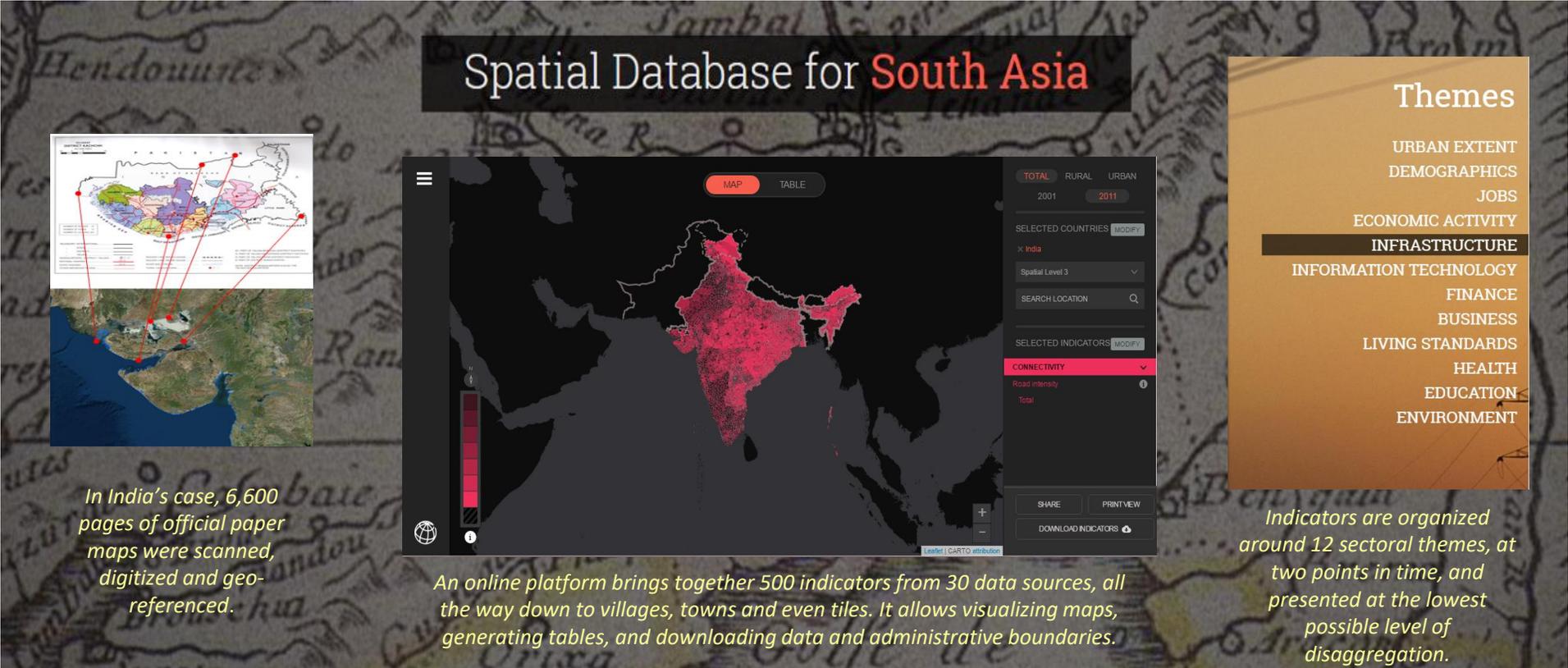


A central role of spatial data for identification

Jacoby and Mansuri:
channel-level lobbying power;
channel-level water availability,
land values.



A central role of spatial data for identification



Spatial Database for South Asia

Themes

- URBAN EXTENT
- DEMOGRAPHICS
- JOB
- ECONOMIC ACTIVITY
- INFRASTRUCTURE**
- INFORMATION TECHNOLOGY
- FINANCE
- BUSINESS
- LIVING STANDARDS
- HEALTH
- EDUCATION
- ENVIRONMENT

In India's case, 6,600 pages of official paper maps were scanned, digitized and geo-referenced.

An online platform brings together 500 indicators from 30 data sources, all the way down to villages, towns and even tiles. It allows visualizing maps, generating tables, and downloading data and administrative boundaries.

Indicators are organized around 12 sectoral themes, at two points in time, and presented at the lowest possible level of disaggregation.

Challenge	Geospatial Solution	Impact
Lack of granular information to understand how urbanization affects growth and poverty.	Creation of a user-friendly platform combining multiple sources of geo-referenced data.	Inform the analytics of the rural-urban transformation, and support projects.

Chief Economist Office, South Asia SpatialDatabase-SouthAsia@worldbank.org

Li and others (2015)

Captured/omitted spatial spillovers

Jacoby and Mansuri:

- Finds variations in lobby power and rent seeking do not exacerbate land wealth inequality.
- Attributes it to free-rider problem, in which poor neighbors also benefit from more access to water resources and share the rents.

Captured/omitted spatial spillovers

Alesina, Gennaioli and Lovo :

- Following Burgess and others (2012), empirically assesses direct effects (district) vs indirect effects (province)
 - finds strong indirect effects of district splitting on province-level deforestation.
 - Indirect effects of district splitting offset the direct effects of ethnic homogeneity.
- However, the paper does not consider spatial spillovers of increased ethnic homogeneity in their theoretical model and empirical strategy.

Captured/omitted spatial spillovers

Kresch:

- Relies on the spatial differences in the constituency of state- and city-companies to set up the theoretical model.
- Considers spatial correlations to identify direct effect on local investment
 - defines buffer zones of municipality-run companies,
 - compares state- and municipality-run companies within the zone.
- However, the paper does not consider indirect effect on/spillovers to state level infrastructure investment.
- How did the investment performance of state-run companies change with the introduction of the legislation?
- What would be the policy implications if the welfare of all citizens is the objective?

Captured/omitted spatial spillovers

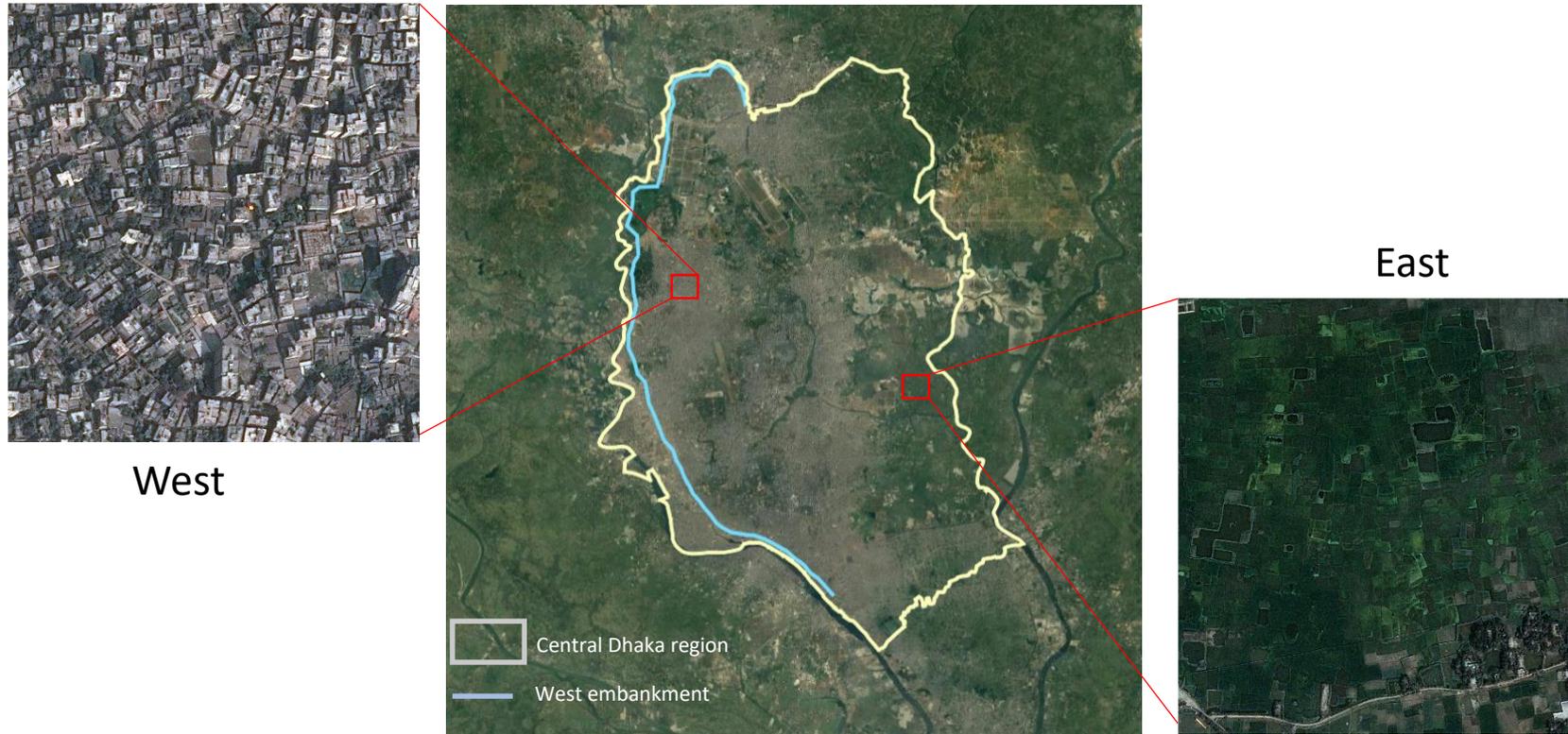
Alder and Kondo:

- Relies on a quantitative spatial general equilibrium model
 - captures the market access effect within a Ricardian trade framework (CRS) where smaller economies benefit from trade integration;
 - derives an optimal transport network;
 - estimates the economic impact of sub-optimal connections with peripheral counties due to political favoritism.
- However, Faber (2014) finds that the National Truck Highway System
 - reinforces the concentration of production in space,
 - due to core-periphery effects of trade integration with agglomeration economies (IRS).
 - Local GDP growth of connected peripheral counties declined relative to non-connected peripheral counties.
- How would considering agglomeration economies(IRS) in the model affect the results?

Captured/omitted spatial spillovers

- Bird and others (*forthcoming*, 2018)

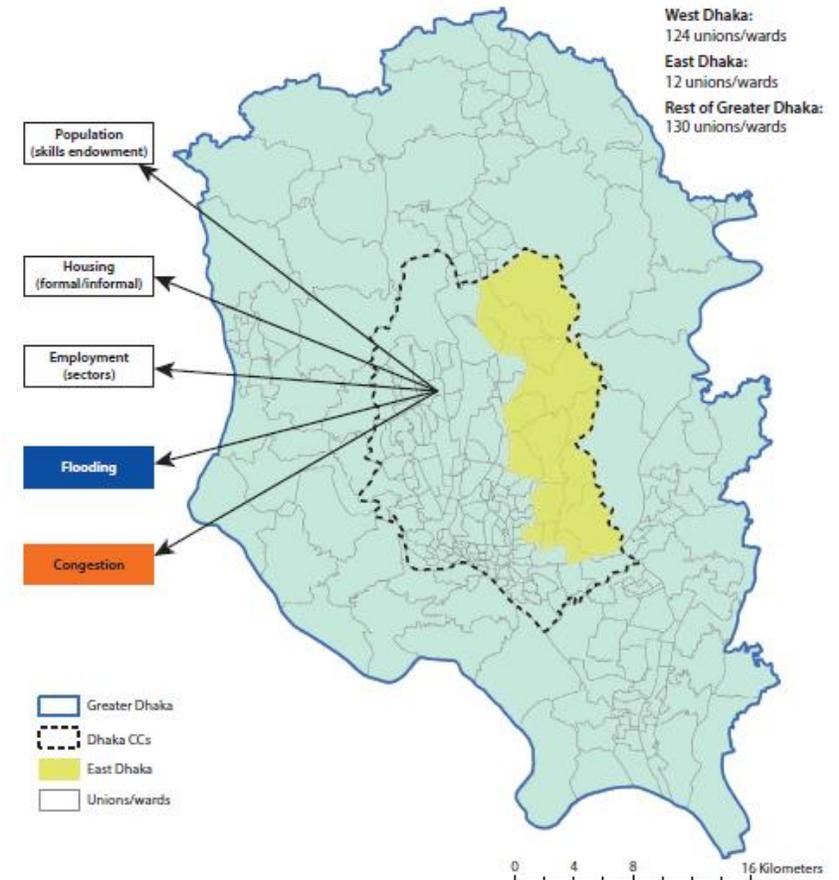
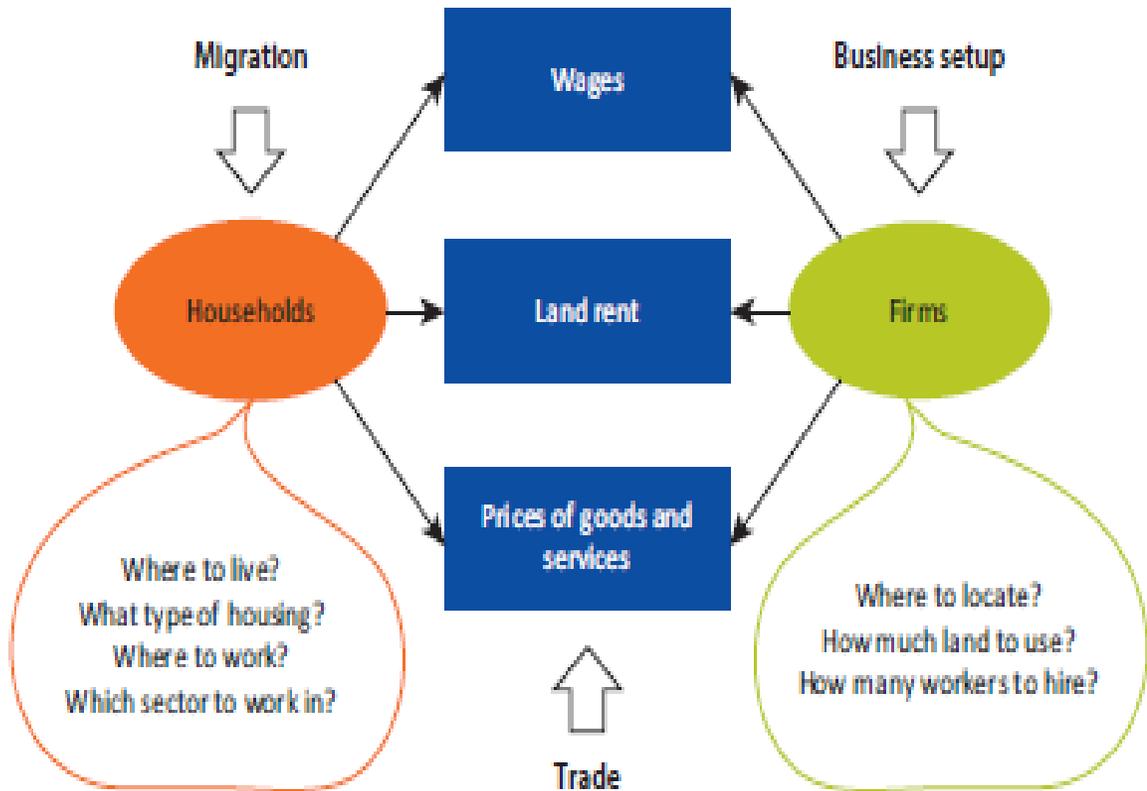
Dhaka's western part is dense, but its eastern part is still mainly rural



Captured/omitted spatial spillovers

- Bird and others (*forthcoming, 2018*)

A computable spatial general equilibrium model is fit to Dhaka



Captured/omitted spatial spillovers

- Bird and others (*forthcoming*, 2018)

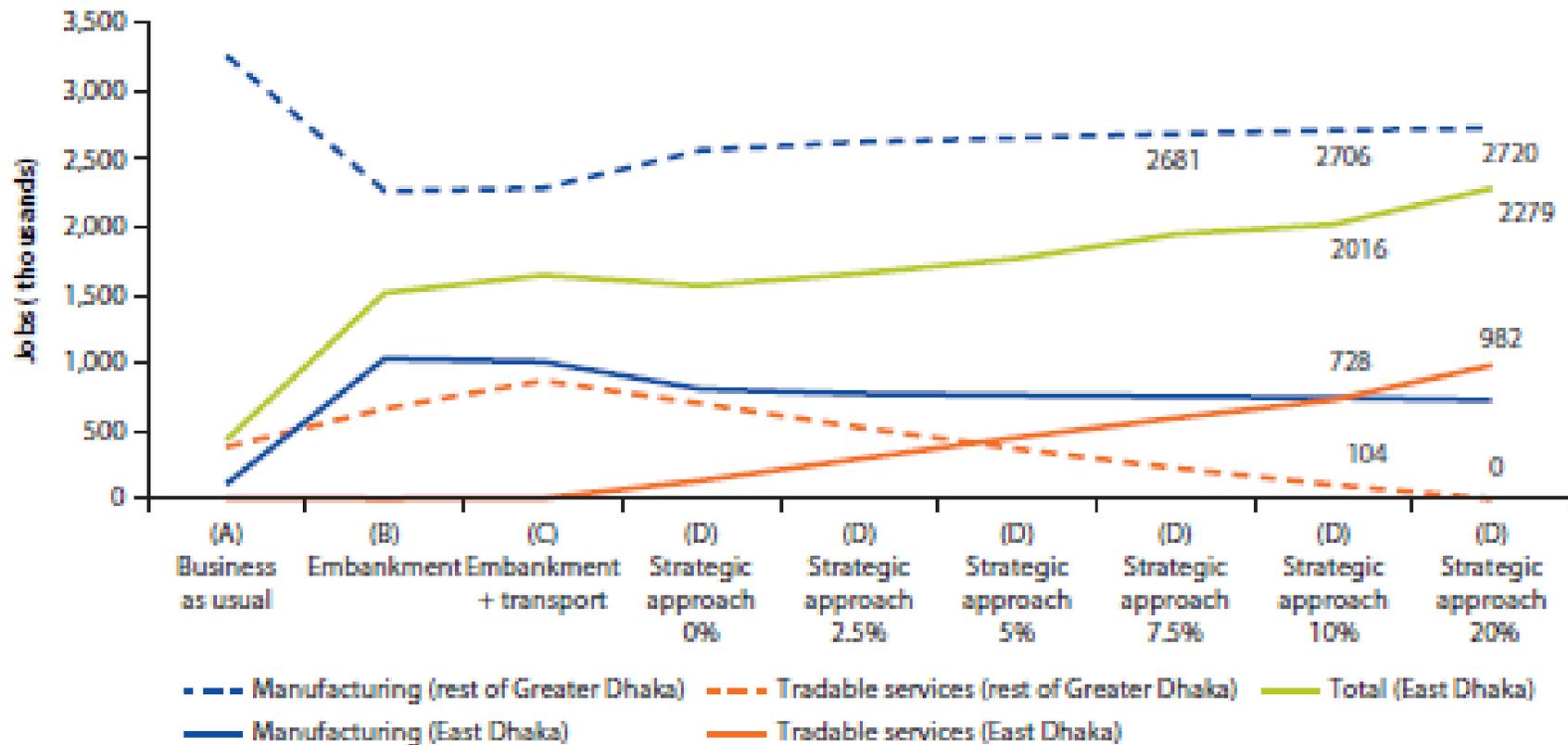
Four development scenarios for Dhaka:
From “business as usual” to a “strategic approach”

	(A) <i>Business as usual</i>	(B) <i>Embankment</i>	(C) <i>Embankment + transport</i>	(D) <i>Strategic approach</i>
<i>Addressing flooding</i>	One embankment and auxiliary measures			
<i>Addressing congestion</i>	Mass transit and wider roads			
<i>Addressing messiness</i>	More jobs, better amenities and preserved wetlands			

Captured/omitted spatial spillovers

- Bird and others (*forthcoming*, 2018)

Soft reforms need to reach a threshold to make a real difference



Captured/omitted spatial spillovers

- Bird and others (*forthcoming*, 2018)

The stronger the agglomeration effects, the greater is the impact of soft reform

